

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A value document having a machine-readable authenticity mark, characterized in that the authenticity mark comprises a luminescent marking substance emitting in the infrared spectral range, ~~preferably at a wavelength  $\lambda$  of 880 nm, preferably above about 1100 nm, especially preferably above about 1200 nm,~~ and a marking substance absorbing in the infrared spectral range.
2. (Previously Presented) The value document according to claim 1, characterized in that the luminescent marking substance emits in the absorption range of the infrared absorbing marking substance.
3. (Currently amended) The value document according to ~~at least one of claims 1 to 2~~claim 1, characterized in that the luminescent marking substance is excitable in the infrared spectral range, ~~preferably in the spectral range from about 800 nm to about 1000 nm.~~
4. (Currently amended) The value document according to ~~at least one of claims 1 to 3~~claim 1, characterized in that the infrared absorbing marking substance is essentially colorless or has only weak inherent color in the visible spectral range.
5. (Currently amended) The value document according to ~~at least one of claims 1 to 4~~claim 1, characterized in that the infrared absorbing marking substance significantly absorbs in the spectral range between about 1200 nm and about 2500 nm, ~~preferably in the spectral range from about 1500 nm to 2000 nm.~~

6. (Currently amended) The value document according to ~~at least one of claims 1 to 5~~claim 1, characterized in that the infrared absorbing marking substance has no significant absorption at a wavelength of about 800 nm.
7. (Currently amended) The value document according to ~~at least one of claims 1 to 6~~claim 1, characterized in that the infrared absorbing marking substance comprises a doped semiconductor material or a metal oxide.
8. (Currently amended) The value document according to ~~at least one of claims 1 to 7~~claim 1, characterized in that the infrared absorbing marking substance is present in particle form with an average particle size smaller than 50  $\mu\text{m}$ .
9. (Currently amended) The value document according to ~~at least one of claims 1 to 8~~claim 1, characterized in that the luminescent marking substance is formed on the basis of a host lattice doped with a rare earth metal.
10. (Currently amended) The value document according to ~~at least one of claims 1 to 9~~claim 1, characterized in that the luminescent marking substance and the infrared absorbing marking substance are formed by substances incorporated into the value document or applied to the value document separately from each other.
11. (Currently amended) The value document according to ~~at least one of claims 1 to 9~~claim 1, characterized in that the luminescent marking substance and the infrared absorbing marking substance are incorporated into the value document or applied to the value document jointly as a mixture of substances.
12. (Currently amended) The value document according to ~~at least one of claims 1 to 11~~claim 1, characterized in that the luminescent marking substance is incorporated into the value document or applied to the value document all over.

13. (Currently amended) The value document according to ~~at least one of claims 1 to 12~~claim 1, characterized in that the value document comprises a substrate, ~~in particular a paper substrate,~~ into whose volume the luminescent marking substance is incorporated.
14. (Currently amended) The value document according to ~~at least one of claims 1 to 13~~claim 1, characterized in that the infrared absorbing marking substance is applied to the value document, ~~preferably being printed on the value document.~~
15. (Currently amended) The value document according to ~~at least one of claims 1 to 14~~claim 1, characterized in that the arrangement of the infrared absorbing marking substance represents information, ~~such as patterns, signs or codings, preferably a bar code.~~
16. (Previously presented) The value document according to claim 15, characterized in that the information is present encrypted.
17. (Currently amended) The value document according to ~~at least one of claims 1 to 16~~claim 16, characterized in that the luminescent marking substance and the infrared absorbing marking substance are present in overlapping areas of the value document.
18. (Currently amended) The value document according to ~~at least one of claims 1 to 17~~claim 17, characterized in that the value document has a printed layer which partly or completely covers the areas of the value document provided with the infrared absorbing marking substance.
19. (Presently presented) The value document according to claim 18, characterized in that the printed layer is opaque in the visible spectral range and is transparent or translucent in the absorption range of the infrared absorbing marking substance.

20. (Currently amended) The value document according to claim 18 ~~or 19~~, characterized in that the printed layer is opaque in the emission range of the luminescent marking substance.
21. (Currently amended) The value document according to ~~at least one of claims 18 to 20~~ claim 18, characterized in that the printed layer is applied by an intaglio printing technique.
22. (Currently amended) The value document according to ~~at least one of claims 1 to 21~~ claim 1, characterized in that the machine-readable authenticity mark is formed over a large area, ~~in particular with a surface area of 100 mm<sup>2</sup> or more, preferably with a surface area of 400 mm<sup>2</sup> or more.~~
23. (Currently amended) The value document according to ~~at least one of claims 1 to 22~~ claim 1, characterized in that the infrared absorbing marking substance and/or the luminescent marking substance is incorporated in the authenticity mark with a coverage of 30% or more, ~~preferably about 50%.~~
24. (Currently amended) A security element for securing an object having a machine-readable authenticity mark of a value document as described in claim 1 ~~at least one of claims 1 to 23~~.
25. (Previously presented) The security element according to claim 24, characterized in that it is disposed detachably on a carrier layer.
26. (Currently amended) The security element according to claim 24 ~~or 25~~, characterized in that it is formed as a label, seal, transfer band, sleeve or other flat transfer element.

27. (Currently amended) A security paper for producing security or value documents, ~~such as bank notes, identity cards or the like,~~ having a machine-readable authenticity mark as described in claim 1 ~~at least one of claims 1 to 23~~.

28. (Currently amended) A method for checking the authenticity of a value document, ~~security element or security paper according to claim 1, or a security element in said value document or a security paper encompassing said value document~~ at least one of claims 1 to 27, characterized by the following steps:

- irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance,
- determining the emission of the authenticity mark at a wavelength from the emission range, and
- evaluating the authenticity of the value document, security element or security paper on the basis of the determined emission.

29. (Previously presented) The method according to claim 28, characterized in that the determination of the emission is carried out in spatially resolved fashion.

30. (Currently amended) The method according to claim ~~28 or 29~~, characterized in that the emission of the authenticity mark is determined on two opposite sides of the value document, security element or security paper.

31. (Previously presented) The method according to claim 30, characterized in that the authenticity evaluation is carried out on the basis of a comparison of the emission from the opposite sides.

32. (Currently amended) A method for checking the authenticity of a value document, ~~security element or security paper according to claim 1, or of a security element in said~~

value document or a security paper encompassing said value document~~at least one of claims 1 to 27~~, characterized by the following steps:

- irradiating the machine-readable authenticity mark with infrared radiation from the absorption range of the infrared absorbing marking substance,
- determining the absorption of the authenticity mark at a wavelength from the irradiation range, and
- evaluating the authenticity of the value document, security element or security paper on the basis of the determined absorption.

33. (Previously presented) The method according to claim 32, characterized in that the absorption of the authenticity mark is determined via a measurement of the transmitted and/or remitted infrared radiation.

34. (Currently amended) A method for checking the authenticity of a value document, ~~security element or security paper~~ according to ~~at least one of claims 1 to 27~~, claim 1, or of a security element in said value document or a security paper encompassing said value document characterized by the following steps:

- irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance,
- determining the absorption of the authenticity mark at a wavelength from the absorption range of the infrared absorbing marking substance, and
- evaluating the authenticity of the value document, security element or security paper on the basis of the determined absorption.

35. (Currently amended) The method according to ~~at least one of claims 32 to 34~~claim 34, characterized in that the determination of the absorption is carried out in spatially resolved fashion.

36. (Currently amended) The method according to ~~at least one of claims 28 to 35~~claim 28, characterized in that the absorption of the authenticity mark is determined additionally at a wavelength from the visible spectral range for authenticity testing.
37. (Currently amended) The method according to ~~at least one of claims 28 to 36~~claim 28, characterized in that the irradiation is carried out with a light-emitting diode or a laser diode.
38. (Currently amended) The method according to ~~at least one of claims 28 to 37~~claim 28, characterized in that the arrangement of the infrared absorbing marking substance represents information, ~~in particular a bar code~~, which is read by determining the absorption or emission and used for authenticity testing.
39. (Previously presented) The method according to claim 38, characterized in that the information comprises the denomination, the currency, the emission date, the country, the printing works or special features of the value document, security element or security paper, whereby one or more of the stated pieces of information are read and processed further in authenticity testing.
40. (Currently amended) An apparatus for carrying out the method according to ~~at least one of claims 28 to 31 or 36 to 39~~claim 28, having means for irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance, means for determining the emission of the authenticity mark at a wavelength from the emission range, and means for evaluating the authenticity of the value document, security element or security paper on the basis of the determined emission.
41. (Currently amended) An apparatus for carrying out the method according to ~~at~~

~~least one of claims 32 to 33 or 35 to 39~~claim 32, having means for irradiating the machine-readable authenticity mark with infrared radiation from the absorption range of the infrared absorbing marking substance, means for determining the absorption of the authenticity mark at a wavelength from the irradiation range, and means for evaluating the authenticity of the value document, security element or security paper on the basis of the determined emission.

42. (Currently amended) An apparatus for carrying out the method according to ~~at least one of claims 34 to 39~~claim 34, having means for irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance, means for determining the absorption of the authenticity mark at a wavelength from the absorption range of the infrared absorbing marking substance, and means for evaluating the authenticity of the value document, security element or security paper on the basis of the determined absorption.

43. (Currently amended) The apparatus according to ~~at least one of claims 40 to 42~~claim 40 in form of a money processing machine, a bank note counting machine, a bank note sorting machine, a bank note reading device for the blind or partially sighted, a bank note reading device for dealings in foreign currency, or a pocket-size bank note testing device.

44. (Canceled)

45. (New) The value document of claim 1 wherein the luminescent marking substance emits at a wavelength  $\lambda$  of 880 nm.

46. (New) The value document of claim 1 wherein said luminescent marking substance emits at a wavelength above about 1100 nm.



47. (New) The value document of claim 46 wherein said wavelength is above about 1200 nm.
48. (New) The value document of claim 3 wherein said spectral range is from about 800 nm to about 1000 nm.
49. (New) The value document of claim 13 wherein said substrate is a paper substrate.
50. (New) The value document of claim 14 wherein the infrared absorbing marking substance is printed on the value document.
51. (New) The value document of claim 15 wherein said information comprises patterns, signs or codings.
52. (New) The value document of claim 51 wherein said information comprises a barcode.
53. (New) The value document of claim 22 wherein said area is a surface area of 100 mm<sup>2</sup> or more.
54. (New) The value document of claim 53 wherein said surface area is 400 mm<sup>2</sup> or more.
55. (New) The value document of claim 23 wherein said coverage is about 50%.
56. (New) The security paper of claim 27 wherein said security or value documents comprise banknotes or identity cards.
57. (New) The method of claim 38 wherein said information comprises a barcode.

**Amendments to the Abstract**

Please amend the following as shown below.

Abstract of the Disclosure

~~The invention relates to a~~ A value document having a machine-readable authenticity mark. ~~According to the invention, which~~ the authenticity mark comprises includes a luminescent marking substance and a marking substance absorbing in the infrared spectral range.

~~Fig. 2~~